Assessment of knowledge of Female Sex Workers on HIV transmission dynamics in Eldoret town, Uasin Gishu County, Kenya

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Abstract: Sex workers are often looked down upon and regarded as illiterate morally deprived and socially unfit. They are however, in any societal construct, at the core of many sexual relationships hence putting them as front runners in the spread of HIV as well as other STIs. This descriptive cross sectional study of the Knowledge was undertaken to understand the factors influencing HIV prevalence rates among FSWs in Eldoret town. A total of 297 female sex workers attending the Sex Worker Outpatient clinic in Eldoret town voluntarily participated in this study. The results show that 61% of the women commenced sex work between the ages of 15-20 years and 97% had no post-secondary education limiting their capacity to seek formal employment. In addition, 44% worked out of night clubs which increased their exposure to alcohol and other substances of abuse. Eighty four percent reported they had one regular partner of whom 43% never used condoms while engaging in sex with them. Furthermore 32%, 18% and 17% thought that coital interruption, vaginal douching and bathing immediately after unprotected sexual encounter respectively, would prevent them from getting HIV infection. The study conclusions showed that, Knowledge on HIV transmission dynamics was significantly high at 100%, 98% and 99% correctly identifying the 3 major modes of transmission which are: sexual transmission, birth and breastfeeding and transfusion with infected blood and sharing needles respectively. These high levels of knowledge are interspersed with misconceptions and didn’t translate into safer sex practices for a significant proportion. The researcher therefore recommended that, the Ministry of Health developed and endorsed targeted information, education and communication materials specific in addressing HIV related misconceptions that influence their attitudes and risky practices in the FSW population of Eldoret town to be delivered at the sex workers healthcare and outlets.

Keywords: Knowledge, FSWs, HIV transmission dynamics

I. Introduction

Despite high awareness of HIV/AIDS in the general population (98.4% in women and 99.3% in men) and rapid expansion of HIV testing and counseling services (especially VCT and PMTCT) in Kenya, less than 1 of 7 Kenyan consisting of 14.1% in adult men and 12.8% women know their HIV status (KDHS, 2003b). The high levels of awareness however, do not translate to high levels of knowledge or practice in respect to HIV which is further illustrated by the low levels of personal HIV status awareness.

Sex work in Kenya is based on a legal double standard, CAP 63 (Penal Code section 153 & 154 (Government of Kenya) a law that penalizes women (or men) for living off the proceeds of selling sex, but not the client for buying it. This state of illegality drives the industry underground and leads to a strong distrust of both police and public health authorities by sex workers which further compromises their legal and health seeking behaviors (MAP, 2005b).

While sex work is a universal phenomenon, it is also frequently illegal and therefore clandestine in several countries such as Kenya. This makes it difficult to determine the true extent of the sex work industry, although it is acknowledged to be substantial and has been increasing in the recent years. It is generally assumed that HIV infection often spreads among sex workers’ and their clients before spreading into the general population and yet the dynamics and extent of HIV transmission from sex workers’ and their clients to other populations remains generally unknown. (UNAIDS, 1999b).

II. Literature Review

A. Knowledge on HIV transmission among FSWs

This refers to understanding the basics on how HIV is acquired and the different infection prevention mechanisms as well as infection risk reduction for vulnerable and Most at Risk Populations (MARPs) groups.
The area of Knowledge Attitude and Practice (KAP) influencing HIV prevalence among any high risk group is often overlooked and sidelined by studies involving the diseases, HIV and STIs, themselves due to the high prevalence rates of these diseases in MARPs as a target population as opposed to the general population. Yet, HIV and other STIs are diseases which the ultimate prevention strategy would be a social vaccine – a social approach to prevention of infection. Nevertheless, the studies already done have managed to highlight several gaps in information on KAPs by MARPs groups, necessitating the need for a more comprehensive study. It is commonly believed that having basic HIV/AIDS education enables people to protect themselves from becoming infected (UNESCO, 2009). The acquiring of knowledge and skills, encourages people to avoid or reduce behaviors that carry a risk of HIV infection (Paul-Ebhohimhem et al., 2008). High rates of HIV infection among sex workers may not be wholly due to the fact that they have multiple partners and may be influenced by a combination of other factors that compound this risk. These include: poverty, limited access to healthcare and legal services, substance use and abuse as well as low educational levels and knowledge about HIV transmission and prevention (UNAIDS, 2002).

In Cambodia HIV/AIDS epidemic is currently spreading faster than anywhere else in Asia with heterosexual transmission of HIV through prostitution is believed to be catalyzing the epidemic (WHO, 2003). Sex workers were surveyed and found to be predominantly young, uneducated, poor women from rural areas, many of whom remain isolated in brothels. Brothel-based FSWs are probably at greatest risk for acquiring HIV for they reported twice as many sexual contacts per day and used condoms less frequently than community-based FSWs. The majority of FSWs surveyed knew that condoms offered protection against HIV/AIDS, although one quarter of FSWs did not always use them further highlighting the disconnect between knowledge and actual practice. It is disappointing to note that despite their high level of baseline HIV/AIDS knowledge; nearly all FSWs requested that additional health education materials be made available to them and their customers (Przybyliski and Alto, 1999).

However, several other studies indicate that sex workers are among those most likely to respond positively to prevention programs relating to HIV and STIs for instance by increasing their condom use with clients (Leonard et al., 2000). An interventional study was carried out in Malawi to measure the impact of a behavior change intervention among commercial sex workers and their potential clients (Vivien et al., 2002). The study evaluated a peer education HIV/AIDS prevention program for bar-based sex workers and their potential clients who were long distance truck drivers. The results showed that in the active study districts, the presence of sex worker peer educators led to an increase in condom distribution and use with paying partners. Condom use with regular non-paying partners had however, not increased. The study recommended the need to investigate reasons behind inconsistent condom use especially with regular, ‘trusted’ clients to understand why they don’t consider them a risk for transmission.

A KAPs survey conducted among prostitutes, pregnant women and truck drivers in Burkina Faso revealed that most of those studied i.e. 98%, 98% and 96% respectively, had heard of HIV /AIDS (Meda et al., 1998). However, the level of knowledge on HIV transmission routes, of risk factors of HIV transmission and of available preventive measures was low. In spite of this, when asked if they considered themselves at risk for HIV infection 41% of the pregnant women, 40% of the long distance truck drivers and 61% of FSWs reported they didn’t consider themselves at risk. From this study it is significant that a relatively high proportion of truck drivers and FSWs, didn’t consider themselves at risk of contracting HIV despite their high risk status as opposed to the pregnant women.

The link between lack of comprehensive knowledge and misconceptions related to HIV risk has been elaborated in a study carried out in Addis Ababa. The study investigated patterns of knowledge and condom use among ten high risk target groups. These were female sex workers, defense forces, police force, pastoralists, truck drivers, intercity bus drivers, road construction workers, teachers, factory workers and people in ANC catchment areas. They revealed that overall knowledge of the three preventive methods, misconceptions and comprehensive knowledge was 57%, 75% and 18.5% respectively. It thus, concluded that misconceptions about the transmission of HIV were high and comprehensive knowledge about HIV / AIDS was very low (Kassie et al., 2008).

Awareness of HIV in the Kenyan general population is high at 98.4% among women and 99.3% among men (KDHS, 2003c). However, this cannot be interpreted to infer that these people know about HIV transmission dynamics and prevention based on what percentage know their current HIV status, which is the first step in good behavior and practice for HIV infection prevention. The study further correlated awareness with actual practice among various education levels showed that, 20% of those who completed secondary education and 33.3% with higher education knew their HIV status, while less than 10% of those with no or incomplete primary education knew their HIV status (KDHS, 2003d). These results having come from the general population which is considered to be much less at risk of acquiring HIV infection than FSWs, highlighted the need to identify how many FSWs who participated in this study know their current HIV status at the point of data collection considering their significantly higher chances of acquiring and transmitting HIV infection.
III. Methodology

The study adopted a descriptive research design. According to Cooper and Schindler (2003), a descriptive study aims at delivering the “what” of a phenomenon. With this design, it was easy to describe the implementation of electronic procurement in terms of the highlighted characteristics which formed the objectives of this study. The information was collected using a set of pre-formulated questions in a predetermined sequence in a structured questionnaire to a sample of the defined population. The research was carried out at Eldore town. A census approach was used thus all FSWs attending the clinic at the time of data collection and those who met the inclusion criteria were enrolled into the study. Every patient was approached by the principal investigator and one trained nurse assistant after their clinic visit within the clinic consultation rooms and requested to participate. Individual screening for suitability to participate in the study was then carried out behind closed doors, followed closely by explanation of the study and signing of informed consent form. During soliciting of informed consent from all who met the inclusion criteria, participants were informed of purposes of the study, were required to disclose their HIV status and were informed that they could opt out of the study if they were not comfortable with it, and no ill consequences would befal them.

Estimates of variance at 0.5 were used and applied in the Cochran’s Formulae as shown (Cochran’s, 1977) in order to estimate population proportion with absolute precision. Using proportion estimates of 0.5/0.5 provided the largest and most conservative sample size.

**Cochran’s Formulae**

\[
\begin{align*}
\text{n0} &= (t)^2 \times (p) \times (q) \\
&= (1.96)^2 \times (.5) \times (.5) \\
&= 385
\end{align*}
\]

\[
\text{n0} = \text{required sample size}
\]

\[
t = 1.96
\]

\[
p, q = \text{proportion estimates}
\]

\[
d = \text{acceptable margin of error.}
\]

However, this sample size was greater than 5% of the study population. This was adjusted by using Cochran’s (1977) Correction formulae (Chadwick, 2001).

\[
\begin{align*}
\text{n1} &= \text{n0} \\
&= 385 \\
&= 159.73404323 \\
&= 160
\end{align*}
\]

\[
\text{n1} = \text{required return sample size after correction.}
\]

\[
\text{n0} = \text{required sample size}
\]

Assuming an anticipated response rate of 80% then

\[
\text{n2} = 160 / 0.80 \\
= 200
\]

\[
\text{n2} = \text{sample size adjusted for return rate.}
\]

However since the sample size was close to the target population and had been calculated from a finite population of FSWs currently enrolled at the Sex worker clinic, a census was done.

IV. Results and Discussion

A. Knowledge on HIV transmission dynamics

Almost all participants were aware that HIV could be contracted through unprotected sex, needle sharing, birth and breast feeding. However as shown by Table 1, between 18 and 31% incorrectly thought that HIV could be transmitted by hugging and touching infected persons and mosquito bites. Some participants also quoted other modes of HIV transmission which were blood mixing during accidents, contact with open wounds of infected persons, careless shaving by barbers who may injure the skin and deep kissing.

**Table 1: Knowledge on HIV transmission dynamics**

<table>
<thead>
<tr>
<th>Mode of Transmission</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Don’t know (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfusion with infected blood</td>
<td>98</td>
<td>2</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Birth and breastfeeding</td>
<td>98</td>
<td>2</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Needle sharing</td>
<td>99</td>
<td>1</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Sharing utensils and toilets</td>
<td>27</td>
<td>72</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Sitting close to a coughing HIV + person</td>
<td>18</td>
<td>81</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Hugging and touching infected persons</td>
<td>31</td>
<td>68</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Mosquito bites</td>
<td>31</td>
<td>66</td>
<td>3</td>
<td>100</td>
</tr>
</tbody>
</table>
Most participants (98%) correctly identified the ABC of preventing HIV infection which is Abstinence, Being faithful and Condom use. However 15% did not know that seeking medical attention is a way of preventing infection once exposure has occurred through rape or a ruptured condom as shown in Figure 1 below. Another correct method of avoiding infection as rightly identified by respondents is testing your client for HIV before performing sexual intercourse.

Figure 1: Knowledge on HIV infection prevention

On investigating mother to child transmission (MTCT) of HIV knowledge, majority (91%) of participants knew that a HIV positive pregnant woman can give birth to a HIV negative infant if birth takes place in a hospital under the care of an expert and accompanied by relevant medication. Only 5% of the participants disagreed that this was possible while 4% did not know anything about MTCT.

Figure 2: Sources of information on HIV/AIDS

On the source of information on HIV/AIDS, figure 2 shows healthcare workers at 99% were the most common source of HIV/AIDS information for the participants, followed the mass media (television & radio) and lowest were sexual partners at 90%.

Women who reported their status as being positive were more likely by 1.3 (CI 0.4 –3.9) times to report ‘yes but don’t know how’ a HIV positive mother can give birth to a HIV negative infant if birth takes place in a hospital under the care of an expert and accompanied by relevant medication. When compared to women who believed that alternative medicine can cure HIV, women who reported their status as positive were 2.6 (CI 0.7 – 9.4) times likely not to believe in alternative medicine. This suggests that there is an association between an HIV positive status and possessing the right knowledge on the lack of effectiveness of alternative medicines to treat HIV.

V. Conclusions and Recommendations

Knowledge on HIV transmission dynamics was significantly high at 100%, 98% and 99% correctly identifying the 3 major modes of transmission which are: sexual transmission, birth and breastfeeding and transfusion with infected blood and sharing needles respectively. These high levels of knowledge are interspersed with misconceptions and didn’t translate into safer sex practices for a significant proportion. Of the participants, 32%, 17% and 18%, believe that coital withdrawal during, having a bath immediately after and vaginal douching or cleaning after unprotected sex respectively can prevent them from contracting HIV infection. Women who were HIV positive were 2.7 (CI 0.7 -11.1) times likely to agree that bathing immediately after unprotected sex prevents HIV infection. Also, 11% of respondents felt that you could tell a HIV positive person from physical appearance. On post exposure prevention awareness, 15% of participants didn’t know that seeking medical attention once exposure to HIV infection has occurred is a way of preventing infection. For any HIV response to be successful and cost effective, it must be tailored to the epidemiological and social reality of HIV transmission patterns addressing knowledge gaps.
References